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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/792,246	03/03/2004	Yuh-Fong Hwang	252011-1950	3979

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EXAMINER

CABRERA, ZOILA E

ART UNIT	PAPER NUMBER
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2125

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/22/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/792,246

Applicant(s)

HWANG ET AL.

Examiner

Zoila E. Cabrera

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 28-33 is/are pending in the application.
- 4a) Of the above claim(s) 11-27 and 34-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 28-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, Claims 1-10 and 28-33, in the reply filed on October 5, 2006 is acknowledged. The traversal is on the ground(s) that the application can be searched without undue burden on the examiner. This is not found persuasive because the inventions are independent or distinct and different classification as provided in the office action of September 6, 2006 is needed. Therefore, there is a burden on the examiner.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-9 and 28-32 are rejected under 35 U.S.C. 102(e) as being anticipated by **Sandstrom et al. (US 6,883,158 B1)**.

Sandstrom discloses

1. A method of fabricating a mask, comprising: providing material and device data (Figs. 5-6, i.e. Pattern data, Blank data, pattern design 503 and mask blank 504);

defining a first manufacturing model according to the material and the device data (Fig. 12, Model); performing a first process run of a first mask as defined by the first manufacturing model (Fig. 5, process); collecting a first process data during the first process run (Col. 6, lines 6-19); determining a backward modification data according to the material and the device data, and the first process data (Fig. 5, feed back loop; Col. 4, lines 35-67); modifying the first manufacturing model according to the backward modification data to obtain a second manufacturing model (Fig. 5, feedback loop 510 and error reduction system 506, error reduction model 1203); and performing a second process run of a second mask as defined by the second manufacturing model (Fig. 5, process; Fig. 11, production of second mask; Col. 17, lines 1-6).

2. The method of claim 1, wherein the backward modification data determining step further comprises performing statistical process control analysis (Col. 4, lines 66-67; Fig. 12, element 1203).

3. The method of claim 1, wherein the material data comprises photoresist type, characteristics, production date, post coating decay, or batch relation data (Col. 5, lines 6-10).

4. The method of claim 1, wherein the device data comprises device type, mask layer, mask grade, option correction type, pattern loading or device loading data (Col. 5, lines 6-10).

5. The method of claim 1, wherein the first process data comprises exposure tool, etching chamber, etching time, tooling bias, batch relation, or inspection result data (Figs. 7, 12).

6. The method of claim 1, wherein the manufacturing model defining step further comprises defining a manufacturing model that describes a writing process for masks (Fig. 12).

7. The method of claim 1, wherein the manufacturing model defining step further comprises defining a manufacturing model that describes a baking process for masks (Col. 23, lines 1-4).

8. The method of claim 1, wherein the manufacturing model defining step further comprises defining a manufacturing model that describes a developing process for masks (Col. 17, lines 1-11).

9. The method of claim 1, wherein the manufacturing model defining step further comprises defining a manufacturing model that describes an etching process for masks (Col. 6, lines 6-20).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Sandstrom et al. (US 6,883,158 B1)** in view of

As for claims 10 and 33 **Sandstrom** discloses acquiring an inspection result of a preceding process run, wherein the inspection result is an after-strip inspection result (Fig. 11); determining a forward modification data according to the first process data and the inspection result (Fig. 5, feed forward loop; Col. 7, lines 1-15); determining a re-etch manufacturing model according to the forward modification data (Fig. 12, Model). **Sandstrom** discloses that by feed-forward or feedback correction or a combination of the two a large portion of the total errors can be controlled and corrected and with his invention development of better and better models to remove errors can be accomplished (Col. 7, lines 1-15). **Sandstrom** discloses that measurements are made after etching whereby systematic errors from these processes are taken care of in the compensation of deviations (Col. 17, lines 1-11). However, **Sandstrom** does not specifically disclose performing a re-etch process run of *the first mask*. But **Todokoro** discloses a re-etching procedure to ensure process integrity (Col. 14, lines 46-59). Therefore, it would have been obvious to a person of the ordinary skill in the art at the time the invention was made to combine the teachings of **Sandstrom** with the system of

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Todokoro because it would provide a high yield production by compensating for any errors in an etching process and thereafter re-etching to ensure process integrity as taught by **Todokoro** (Col. 14, lines 46-59).

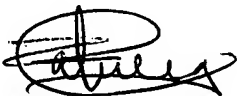
Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning communication or earlier communication from the examiner should be directed to Zoila Cabrera, whose telephone number is (571) 272-3738. The examiner can normally be reached on M-F from 8:00 a.m. to 5:30 p.m. EST (every other Friday).

If attempts to reach the examiner by phone fail, the examiner's supervisor, Leo Picard, can be reached on (571) 272-3749. Additionally, the fax phones for Art Unit 2125 are (571) 273-8300. Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist at (703) 305-9600.

Zoila Cabrera
Primary Examiner
12/21/06


ZOILA CABRERA
PRIMARY EXAMINER
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12/21/06